



AWS WeatherBug® Schools Protocol

Welcome

Introduction

Protocols

Learning Activities

Appendix

Purpose

A school participating in the AWS WeatherBug® Schools Program arranges for transfer of data logged through AWS WeatherBug® to GLOBE.

Overview

GLOBE schools participating in the AWS WeatherBug® Schools Program arrange for their data to be transferred automatically to GLOBE. A special GLOBE Atmosphere Study Site is defined for the school's AWS WeatherBug® weather station, and this activates an automatic transfer of their AWS WeatherBug® data to the GLOBE database.

Student Outcomes

Students can view data for their school that are continuous and show variations within a day. The data collected include wind speed and direction and pressure thereby supporting a more complete study of meteorology. Students pursue a more extensive set of research investigations.

Science Concepts and Scientific Inquiry Abilities

Science concepts and scientific inquiry abilities are gained through analyzing the data collected with the weather station. Refer to the Looking at Your Data sections of the protocols that correspond to the measurements taken with your AWS WeatherBug® weather station for guidance on performing this data analysis. Consult the Science Concepts and Scientific Inquiry Abilities listed in the gray boxes for these protocols to learn about the science concepts and scientific inquiry abilities that will be gained.

Concepts

Earth and Space Science -
Weather Concepts Involving

- ✓ Measurements
- ✓ Variations – hourly, daily, monthly.
- ✓ Variations – location (latitude and longitude), topography
- ✓ Concepts related to watercycle
- ✓ Concepts related to wind

Math

- ✓ Data analysis
- ✓ Data collection
- ✓ Data interpretation
- ✓ Data representation
- ✓ Measurement

Geography

- ✓ Weather varies according to location (latitude and longitude) and topography.

Time

Approximately 15 minutes

Level

All

Frequency

Once

Materials and Tools

- ✓ AWS WeatherBug® weather station connected to the AWS WeatherBug® Schools Network
- ✓ Atmosphere Site Definition Sheet

Preparation

Establish an AWS WeatherBug® Schools weather station and obtain a weather station ID.

Prerequisites

None



AWS WeatherBug® Weather Station

Using automated weather stations that record data can allow students to take environmental measurements at much shorter time intervals than collecting data by hand. The large volume of data that can be collected at uniform time intervals allows for the study of weather phenomena that can change quickly (such as wind) and so cannot be monitored through measurements taken with longer sampling periods.

A network of automated weather stations throughout the world collecting and reporting data to a central database would serve as an important resource for studying global weather patterns and tracking weather systems. AWS Convergence Technologies, Inc./WeatherBug® operates a large private network of weather stations. An extension of this network is the AWS WeatherBug® Schools Program (www.weatherbugschools.com), which involves schools and colleges in the study of weather and provides educational tools to aid in this study.



Teacher Support

AWS WeatherBug® Schools and GLOBE

The AWS WeatherBug® Schools Program allows schools to use weather stations to collect and report atmospheric data. Since the function of AWS WeatherBug® Schools is inline with that of GLOBE, it is possible for a school to participate in both programs simultaneously. A GLOBE school that is participating in the AWS WeatherBug® Schools Program may have the data that they collect with an AWS WeatherBug® weather station transferred automatically to the GLOBE database.



In order to accomplish this, the school must define a GLOBE Atmosphere Study Site specifically for their AWS WeatherBug® weather station. After this special site definition is completed, the data that the school reports to AWS WeatherBug® will automatically be transferred to the GLOBE database. The school should still continue to take additional GLOBE measurements not covered by AWS WeatherBug® and report these to GLOBE.

Defining an Atmosphere Site for the AWS WeatherBug® Weather Station

To define a GLOBE site for AWS WeatherBug® data, you will need to complete an Atmosphere Site Definition Sheet for your AWS weather station. In addition to the standard information associated with a GLOBE Atmosphere Study Site that is recorded on this Site Definition Sheet, you include your AWS WeatherBug® weather station's ID.

After the AWS WeatherBug® Site Definition Sheet is completed the site must be defined online using the Atmosphere site definition page available under the Atmosphere section of the Data Entry page of the GLOBE Web site. On this page you will need to follow the special instructions for reporting your site as an AWS WeatherBug® Schools site. This includes selecting a Thermometer type of "AWS WeatherBug® Weather Station" and reporting your AWS WeatherBug® weather station's ID to GLOBE.